

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

ROW ARRANGEMENT

(Ac.)
Code 557



DEFINITION

A system of crop rows on planned grades and lengths.

PURPOSE

Establish crop rows in direction, grade and length to:

- Provide adequate drainage
- Provide erosion control
- Permit optimum use of rainfall and irrigation water.

CONDITIONS WHERE PRACTICE APPLIES

Proper row arrangement is applicable:

1. As part of a surface drainage system for a field where the rows are planned to carry runoff to main or lateral drains.
2. To facilitate optimum use of water in graded furrow irrigation or subsurface irrigation systems.

3. On sloping land where control of the length, grade, and direction of rows can help reduce soil erosion, as a stand-alone practice or in conjunction with other conservation practices

CRITERIA

General Criteria Applicable To All Purposes

Laws, rules, and regulations. All work shall comply with federal, state, and local laws, rules, and regulations.

Row width. Row arrangement shall be designed to accommodate the type and size of farm equipment to be used in the field.

Additional Criteria For Surface Drainage

As part of a surface drainage system, row arrangement shall:

1. Conform to the National Engineering Handbook (NEH), Part 650, Engineering Field Handbook, Chapter 14, Water Management (Drainage) for the area regarding grade, depth, and permissible velocities.
2. Facilitate flow of excess water from the field into surface ditches.

Additional Criteria For Furrow Irrigation or Subsurface Irrigation Systems

As part of a furrow irrigation system or subsurface irrigation system, row arrangement shall:

1. Conform to the NEH, Part 652, Irrigation Guide and Florida supplements regarding grade and length.
2. Facilitate irrigation water management in the field.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Additional Criteria For Erosion Control And Water Conservation

As part of an erosion control and/or water conservation system for a field, row arrangement shall:

1. Conform to the particular Conservation Practice Standard for the area (such as 449, Irrigation Water Management) for which row arrangement is a facilitating measure.
2. Conform to the grade and length requirements for Florida NRCS conservation practice standard Terrace, Code 600, if the arrangement is used without another engineering practice.

CONSIDERATIONS

When planning this practice as part of the Resource Management System for a field, the following considerations should be made for water quantity and quality, as applicable:

- Effects upon components of the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation and ground water recharge.
- The potential for a change in plant growth and transpiration due to changes in the volume of soil water.
- Effects on downstream flows and aquifers that would affect other water uses and users. This would include the effect of nutrients and pesticides on surface and ground water, the movement of dissolved substances below the root zone and toward the ground water, and soil water level control on the salinity of the soils, soil water or downstream water.

- Effects on the volume of downstream flow to prohibit undesirable environmental, social or economic effects, such as, effects on wetlands or water-related wildlife habitats.
- The effects on the water table of the field and/or soil moisture to ensure that it will provide a suitable rooting depth for the anticipated land uses.
- Potential use for water management to conserve water.

PLANS AND SPECIFICATIONS

Plans and specifications for row arrangement shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. As a minimum, the plans and specifications shall include:

- location of the area where the rows will be established
- direction, grade, and length of rows to be established

OPERATION AND MAINTENANCE

An O&M plan specific to the intended purpose of the row arrangement system shall be provided to the landowner.

REFERENCES

NEH, Part 650, Engineering Field Handbook, Chapter 14, Water Management (Drainage)
NEH, Part 652, Irrigation Guide and Florida Supplements.